CLAIMS

1. Active inductor circuit (L) including first (T1) and second (T2) inductor terminals for coupling to respective external terminals (Hi,Lo), said first and second inductor terminals being coupled to a first transconductance circuit (gm1), a second transconductance circuit (gm2) and a feedback circuit (fb) included in said active inductor circuit (L), an output terminal (OUT1) of said first transconductance circuit (gm1) being coupled to an input terminal of said second transconductance circuit (gm2), an output terminal (OUT2) of said second transconductance circuit (gm2) being coupled to an input terminal (IN1) of said first transconductance circuit (gm1) via said feedback circuit (fb) , said active inductor circuit further including a capacitor (C1) coupled between said output terminal (OUT1) of said first transconductance circuit (gm1) and said second inductor terminal (T2).

2. Active inductor circuit (L) according to claim 1, wherein said first transconductance circuit (gm1) includes an inverter (MOS1,MOS2) and two resistors (R1,R2).

3. Active inductor circuit (L) according to claim 1, wherein said second transconductance circuit (gm2) includes an active device (MOS3) in series with a third resistor (R3).

4. Active inductor circuit (L) according to claim 1, wherein said feedback circuit (fb) includes a fourth resistor (R4) in series with a fourth active device (MOS4) .

5. Active inductor circuit (L) according to any of the previous claims wherein the feedback circuit (fb) linearises the relationship between a synthesised DC voltage between said first (T1) and second

terminals (T2) and a DC output current through said second transconductance circuit (gm2).

6. Active inductor circuit (L) according to any of the previous claims wherein the current through said second transconductance circuit is at least a factor 100 larger than the current through said first transconductance circuit and through said feedback circuit.

7. Active inductor circuit (L) according to any of the previous claims wherein the equivalent inductance equals the capacitance value of said first capacitor (C1) divided by the product of the transconductance values of said first transconductance circuit (gm1) and said second transconductance circuit (gm2).

8. Active inductor circuit (L') according to any of the previous claims, wherein said active inductor circuit further includes a third transconductance circuit (gm1'), an output terminal (OUT1') of which is coupled to an input terminal of a fourth transconductance circuit (gm2') included in said active inductor circuit (L'), and to a second capacitor (C2) , a second terminal of which is coupled to the first terminal (T1) of said active inductor circuit (L'), an output terminal (OUT2') of said fourth transconductance circuit (gm2') being coupled to an input terminal (IN1') of said third transconductance circuit (gm1') via a second feedback circuit (fb') of said active inductor circuit, said active inductor circuit (L') further including a first unidirectional device (D1) coupled between said first terminal (T1) and said second transconductance circuit (gm2), said active inductor circuit (L') further including a second unidirectional device (D2) coupled between said second terminal (T2) and said fourth transconductance circuit (gm2').

9. Active inductor circuit (L') according to claim 8, wherein said second capacitor (C2) is similar to said first capacitor (C1), said third transconductance circuit (gm1') is similar to said first transconductance circuit (gm1), said fourth transconductance circuit (gm2') is similar to said second transconductance circuit (gm2), and said second feedback circuit (fb') is similar to said first feedback circuit (fb).